



June 10, 2008

Dr. Leah Evison
U. S. EPA - Region 5 (SR-6J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

**Re: Sauget Area 2 Site – October 3, 2002 Unilateral Administrative Order
(UAO) Groundwater Operable Unit
Monthly Report; May 1 - May 31, 2008 Reporting Period**

Dear Dr. Evison:

Attached is the Monthly Report for the Sauget Area 2 Site October 3, 2002 Unilateral Administrative Order (UAO) - Groundwater Operable Unit. This submittal is in fulfillment of the monthly reporting requirements of the UAO, Section XII, paragraph 62, Progress Reports. This report is for the period May 1 – May 31, 2008.

Sincerely,

A handwritten signature in black ink, appearing to read "S.D. Smith", with a stylized flourish at the end.

Steven D. Smith
Project Coordinator

cc: Ken Bardo, - U. S. EPA
Mayor Sauget - Sauget, IL
Sandra Bron – IEPA
Mike Coffey - USFWS
Village of Sauget – c/o P. H. Weis & Associates (Attn: Brian Nelson)
Mayor Frank Bergman – Cahokia
L. Glen Kurowski - Monsanto
Cathleen Bumb – Solutia
Linda Tape - Husch Blackwell Sanders, LLP
Richard Williams – Solutia

Sauget Area 2 Site - Sauget, Illinois

October 3, 2002 UAO – Groundwater Operable Unit

Status Report

Date of Report: June 10, 2008
Period Covered: May 1 - May 31, 2008

Work Performed During the Reporting Period

Site Work

- No site work was carried out during the reporting period.

Groundwater Treatment

- As agreed upon with USEPA, the Groundwater Migration Control System (GMCS) continues to be operated to maintain the total pumping rate equal to the computed inflow rate, based on the average of the gradients measured in the two existing pairs of piezometers located immediately upgradient of the Site R landfill. The system was operated in the above manner for the month of May. However, no pumping occurred during the first three weeks of the month because of the high river stage. The control system turned on extraction well EW-2 on May 22nd and pumped at low flow rates (typically less than 15 gpm) for most of the rest of the month (no pumping occurred on May 27th and 28th).
- The flooding that occurred in the EW-2 valve vault on March 19th damaged the remote valve actuator for this well. The unit was removed on April 1st and sent for repair. It was reinstalled on April 28th. The valve position signal continued to fluctuate and fuses were replaced in the actuator on May 16th. This corrected the problem. This issue did not affect the system operation since the pumps were not operating at the time.
- On May 12th, a power outage occurred between 1.00 and 2.00 am. This caused the control system to shut down and a circuit breaker on EW-3 was tripped. The system was restarted later that morning and the missing data were recovered and posted to the server. A similar failure occurred on May 13th and the system had to be manually restarted at the site. The signal from piezometer PZ-7U was also lost on that same day and was restored on May 16th. The problem was traced to a faulty surge suppressor. This issue also did not affect the system operation since the pumps were not operating at the time.

- The vault flood alarm on well EW-3 was tripped on May 26th and 28th. The vault was inspected and no water was present on either occasion. The alarm was apparently triggered by tripping of the circuit breaker for the power feed to the well. The breaker was reset on both occasions and the problem has not reoccurred.
- Over the past several months, ongoing problems have been experienced with piezometer pair PZ-8. This pair is used in the computation of the groundwater gradient immediately upgradient of the GMCS and, hence, in the computation of the inflow rate into the system. The cause of the problems was almost invariably the presence of moisture in the surge protection module of the recorder. In order to permanently solve this problem, it was decided to raise the electronics modules of three of the four piezometer pairs upgradient of the GMCS above grade (the PZ-6, PZ-7, and PZ-8 pairs). The fourth pair (PZ-5) is not subject to inundation. Work began on this project in March and by the end of April the electronic modules for piezometers PZ-8U, PZ-8D, PZ-7D and PZ-6D had been raised above grade. The modules for piezometers PZ-7U and PZ-6U were not accessible and until the end of the month and will be relocated in June.
- The signal from piezometer PZ-1N became erratic on May 30th. The problem was traced to a faulty surge suppressor that had apparently been damaged by storms the day before. The signal channel was switched to a new surge suppressor and this stabilized the signal.
- Comments on various documents submitted to the Agency were received on February 12th. These documents include:
 - Three Technical Memorandums (TMs) for Interim Operating Periods (IOPs) 1, 2 and 3
 - Quarterly Groundwater Sampling Reports
 - Semi-Annual River Sampling Reports
 - Draft Extraction Well Step Test Memo
 - Draft Operations and Maintenance Plan
 - Draft Barrier Wall Completion Report

A meeting was held on April 29th to discuss these comments. The comments have been reviewed and the following documents are being prepared for submission to the Agency:

- An Operating Report covering the period between February 2006 and December 2007. This report was originally scheduled to be submitted by the end of May. However, an extension to June 16th was granted by the Agency.
- A Remedial Action Report which was submitted on May 28th.

- A Work Plan for computing the mass flux to the river sediments and surface water following construction of the Interim Remedy was submitted on March 17, 2008. The Work Plan was discussed at the April 29th meeting and the Agency requested that the proposed methodology be revised to compute the chemical flux entering the river, as opposed to the groundwater flux.
- Alternatives to the method currently used to compute the pumping rate (Darcy's Law) were also discussed at the April 29th meeting. It was agreed that the uncertainties in the parameters used in the Darcy's Law computation could be avoided if the groundwater extraction rate was adjusted such that the flow vectors entering the barrier wall system were parallel to the arms of the barrier. A technical memorandum will be prepared and submitted to the Agency proposing a method to achieve this.
- Collection of surface water and sediment samples in the Mississippi River scheduled to occur in March was postponed because of the high river stage. Collection of these samples will be rescheduled when the river stage declines sufficiently to ensure that groundwater is discharging to the river.
- Water level and pumping data for the reporting period are attached.

Schedule

The documents listed above will be used to establish that the Remedial Action at Site R is complete.

Submittals During Reporting Period

- A Remedial Action Report for the GMCS was submitted on May 28th.

Work Scheduled for Next Reporting Period

- Continue operating the extraction system to maintain the total pumping rate equal to the computed inflow rate.
- Validate the analytical data from the first quarter 2008 groundwater samples from the performance monitoring wells and prepare a report for submission to the Agency.
- Collect second quarter 2008 groundwater samples from the performance monitoring wells.
- Monitor the Mississippi River stage in order to determine an appropriate time for collection of the first 2008 semi-annual surface water and sediment samples and collect the samples when groundwater begins to discharge to the river.
- Submit an Operating Report covering the period between February 2006 and December 2007 and a Technical Memorandum describing the methodology proposed to supplement Darcy's Law for use in computing the groundwater extraction rate

PUMPING DATA

GROUNDWATER MIGRATION CONTROL SYSTEM

MAY 2008 DAILY AVERAGE PUMPING RATES AND GROUNDWATER LEVELS

Date/Time		PUMPING RATE					SWL
		Computed Q	Total Q	EW-1 Q	EW-2 Q	EW-3 Q	
05/01/2008	Daily Average	0.00	2.80	1.03	0.88	0.92	409.98
05/02/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	409.35
05/03/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	408.91
05/04/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	408.93
05/05/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	409.20
05/06/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	409.41
05/07/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	409.12
05/08/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	409.14
05/09/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	410.13
05/10/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	410.28
05/11/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	410.33
05/12/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	410.33
05/13/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	410.33
05/14/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	410.47
05/15/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	410.07
05/16/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	409.52
05/17/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	408.75
05/18/2008	Daily Average	0.00	2.87	0.90	1.10	0.87	408.06
05/19/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	407.43
05/20/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	406.87
05/21/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	406.06
05/22/2008	Daily Average	0.47	0.00	0.00	0.00	0.00	405.14
05/23/2008	Daily Average	2.36	0.00	0.00	0.00	0.00	404.28
05/24/2008	Daily Average	14.68	0.00	0.00	0.00	0.00	403.27
05/25/2008	Daily Average	49.42	4.19	1.32	1.43	1.45	402.37
05/26/2008	Daily Average	8.14	0.00	0.00	0.00	0.00	403.56
05/27/2008	Daily Average	0.01	0.00	0.00	0.00	0.00	405.14
05/28/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	406.16
05/29/2008	Daily Average	1.50	3.03	0.00	3.03	0.00	404.84
05/30/2008	Daily Average	10.89	15.35	0.00	15.35	0.00	403.31
05/31/2008	Daily Average	8.08	12.84	0.85	11.99	0.00	403.66

GROUNDWATER MIGRATION CONTROL SYSTEM

MAY 2008 DAILY AVERAGE PUMPING RATES AND GROUNDWATER LEVELS

		GROUNDWATER LEVELS											
Date/Time		PZ-5U	PZ-5D	Delta	PZ-6U	PZ-6D	Delta	PZ-7U	PZ-7D	Delta	PZ-8U	PZ-8D	Delta
05/01/2008	Daily Average	402.83	403.35	0.52	402.69	402.41	-0.27	402.45	402.37	-0.07	402.81	404.16	1.35
05/02/2008	Daily Average	402.79	403.25	0.46	402.52	402.39	-0.13	402.44	402.36	-0.09	402.81	404.05	1.23
05/03/2008	Daily Average	402.57	403.02	0.45	402.45	402.18	-0.27	402.25	402.15	-0.10	402.60	403.81	1.21
05/04/2008	Daily Average	402.52	402.96	0.45	402.23	402.13	-0.10	402.19	402.11	-0.09	402.54	403.73	1.19
05/05/2008	Daily Average	402.69	403.12	0.43	402.50	402.28	-0.22	402.34	402.26	-0.08	402.69	403.90	1.21
05/06/2008	Daily Average	402.87	403.29	0.42	402.62	402.44	-0.19	402.52	402.44	-0.08	402.90	404.08	1.18
05/07/2008	Daily Average	402.98	403.40	0.41	402.73	402.62	-0.11	402.66	402.58	-0.07	402.97	404.15	1.17
05/08/2008	Daily Average	403.07	403.45	0.38	402.79	402.68	-0.11	402.74	402.66	-0.08	403.07	404.22	1.15
05/09/2008	Daily Average	403.18	403.66	0.48	402.73	402.78	0.05	402.85	402.77	-0.08	403.25	404.54	1.29
05/10/2008	Daily Average	403.43	403.89	0.46	402.83	403.04	0.21	403.09	403.01	-0.07	403.46	404.80	1.35
05/11/2008	Daily Average	403.60	404.07	0.47	403.07	403.22	0.16	403.31	403.23	-0.09	403.69	404.95	1.26
05/12/2008	Daily Average	403.55	404.04	0.48	402.82	403.18	0.36	403.27	403.18	-0.09	403.66	404.95	1.29
05/13/2008	Daily Average	403.73	404.17	0.45	402.95	403.37	0.42	403.36	403.36	-0.07	403.83	405.05	1.22
05/14/2008	Daily Average	403.81	404.28	0.47	402.94	403.46	0.52		403.47		403.94	405.19	1.24
05/15/2008	Daily Average	403.85	404.29	0.45	402.64	403.54	0.90		403.54		403.94	405.16	1.22
05/16/2008	Daily Average	403.86	404.23	0.36	402.61	403.56	0.95	403.69	403.54	-0.10	403.96	405.02	1.06
05/17/2008	Daily Average	403.90	404.22	0.32	402.18	403.64	1.46	403.75	403.65	-0.10	404.04	404.96	0.92
05/18/2008	Daily Average	403.74	403.98	0.25	401.67	403.48	1.81	403.60	403.49	-0.11	403.82	404.66	0.84
05/19/2008	Daily Average	403.59	403.84	0.25	401.55	403.40	1.85	403.49	403.40	-0.09	403.72	404.43	0.71
05/20/2008	Daily Average	403.41	403.55	0.14	401.71	403.18	1.47	403.27	403.14	-0.12	403.49	404.12	0.63
05/21/2008	Daily Average	403.19	403.33	0.14	401.39	403.02	1.63	403.12	403.00	-0.12	403.30	403.82	0.53
05/22/2008	Daily Average	402.92	403.02	0.10	400.83	402.80	1.97	402.89	402.76	-0.14	403.03	403.43	0.40
05/23/2008	Daily Average	402.65	402.69	0.04	400.42	402.51	2.09	402.65	402.51	-0.13	402.74	403.04	0.30
05/24/2008	Daily Average	402.38	402.35	-0.03	399.59	402.27	2.68	402.39	402.24	-0.15	402.44	402.62	0.18
05/25/2008	Daily Average	402.20	402.15	-0.05	400.05	402.17	2.12	402.29	402.12	-0.17	402.31	402.29	-0.02
05/26/2008	Daily Average	402.30	402.31	0.01	400.03	402.18	2.15	402.33	402.18	-0.14	402.41	402.56	0.15
05/27/2008	Daily Average	402.52	402.62	0.10	399.72	402.34	2.62	402.50	402.37	-0.13	402.66	403.11	0.45
05/28/2008	Daily Average	402.73	402.89	0.16	399.41	402.52	3.11	402.67	402.54	-0.13	402.88	403.50	0.62
05/29/2008	Daily Average	402.84	402.91	0.06		402.70		402.83	402.70	-0.14	402.97	403.36	0.39
05/30/2008	Daily Average	402.74	402.73	-0.01		402.66		0.00	402.66	-0.15	402.87	403.02	0.15
05/31/2008	Daily Average	402.61	402.61	0.00		402.51		402.69	402.54	-0.15	402.77	402.97	0.20

GROUNDWATER MIGRATION CONTROL SYSTEM

MAY 2008 DAILY AVERAGE PUMPING RATES AND GROUNDWATER LEVELS

Date/Time		GROUNDWATER LEVELS							
		PZ-1_OUTSI	PZ-1_INSIDE	PZ-2_OUTSI	PZ-2_INSIDE	PZ-3_OUTSI	PZ-3_INSIDE	PZ-4_OUTSI	PZ-4_INSIDE
		DE	DE	DE	DE	DE	DE	DE	DE
05/01/2008	Daily Average	406.28	401.35	408.19	402.82	407.74	402.05	406.04	402.88
05/02/2008	Daily Average	405.88	401.32	407.57	402.84	407.19	402.06	405.71	402.84
05/03/2008	Daily Average	405.56	401.07	407.22	402.60	406.81	401.81	405.40	402.59
05/04/2008	Daily Average	405.54	401.05	407.17	402.54	406.80	401.74	405.40	402.55
05/05/2008	Daily Average	405.76	401.18	407.44	402.70	407.01	401.93	405.60	402.72
05/06/2008	Daily Average	405.99	401.40	407.67	402.90	407.26	402.07	405.77	402.89
05/07/2008	Daily Average	405.85	401.54	407.39	403.00	407.04	402.23	405.76	403.03
05/08/2008	Daily Average	405.89	401.62	407.44	403.07	407.06	402.26	405.82	403.09
05/09/2008	Daily Average	406.49	401.67	408.37	403.20	407.95	402.41	406.28	403.27
05/10/2008	Daily Average	406.71	401.93	408.54	403.39	408.14	402.70	406.55	403.52
05/11/2008	Daily Average	406.83	402.15	408.65	403.66	408.24	402.87	406.74	403.71
05/12/2008	Daily Average	406.79	402.08	408.60	403.60	408.20	402.83	406.70	403.68
05/13/2008	Daily Average	406.82	402.26	408.56	403.74	408.24	403.00	406.74	403.38
05/14/2008	Daily Average	407.01	402.35	408.77	403.91	408.36	403.14	406.93	403.21
05/15/2008	Daily Average	406.82	402.43	408.41	403.96	408.05	403.11	406.80	403.33
05/16/2008	Daily Average	406.47	402.41	407.87	403.93	407.55	403.13	406.51	403.32
05/17/2008	Daily Average	406.09	402.53	407.18	404.04	406.92	403.26	406.15	403.25
05/18/2008	Daily Average	405.61	402.34	406.53	403.84	406.31	403.07	405.71	403.04
05/19/2008	Daily Average	405.22	402.21	405.95	403.74	405.76	402.95	405.32	403.03
05/20/2008	Daily Average	404.79	401.99	405.40	403.53	405.22	402.65	404.91	402.80
05/21/2008	Daily Average	404.27	401.77	404.66	403.34	404.53	402.52	404.41	402.59
05/22/2008	Daily Average	403.65	401.54	403.82	403.08	403.72	402.25	403.81	402.24
05/23/2008	Daily Average	403.04	401.29	402.97	402.78	402.91	401.95	403.19	402.10
05/24/2008	Daily Average	402.33	400.96	402.06	402.56	402.05	401.67	402.55	401.82
05/25/2008	Daily Average	401.75	400.84	401.22	402.39	401.24	401.55	514.50	508.74
05/26/2008	Daily Average	402.37	400.85	402.27	402.42	402.23	401.55	402.77	401.53
05/27/2008	Daily Average	403.38	401.05	403.75	402.63	403.63	401.79	403.65	401.89
05/28/2008	Daily Average	404.09	401.22	404.73	402.83	404.57	401.99	404.36	401.96
05/29/2008	Daily Average	403.47	401.40	403.60	402.99	403.52	402.13	403.70	402.21
05/30/2008	Daily Average	402.72	401.43	402.44	402.89	402.42	402.03	402.97	402.10
05/31/2008	Daily Average	402.72	401.20	402.56	402.76	402.54	401.89	403.11	401.87